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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/555,750

**Applicant(s)**

VERSCHUREN, COEN ADRIANUS

**Examiner**

Kezhen Shen

**Art Unit**

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a) because they:

(Figs. 1 and 7) fail to clearly show the details of the reference numerals as described in the specification.

(Figs. 2 and 3) fail to clearly show the invention and the details concerning the graph provided.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the

appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 6, 8, 10, 13-16, 18, 20-21 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ashinuma US 2001/0028607 A1.

Regarding claim 1, Ashinuma teaches a calibration method for calibration of a copy window control setpoint during readout of a magneto-optical recording medium ([0040] a method for setting an optimum reproduction power) comprising a storage layer and a readout layer ([0034] the first and third magnetic layers), wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying a mark region from said storage layer to said readout layer upon heating by a radiation power

with the help of said external magnetic field ([0034]), said method comprising the steps of: varying at least one predetermined reading parameter (S107 of Fig. 5, [0043] the reproduction power is varied); monitoring a data pattern reproduced during said variation step (S104 and 105 of Fig. 5, [0045]); determining at least one limit value for said at least one predetermined reading parameter based on said monitored data pattern (S114 of Fig. 5, [0046]); setting said at least one reading parameter to a predetermined value determined on the basis of said limit value (S114 of Fig. 5, [0046]); applying a predetermined additional pattern of change to said predetermined parameter (S115 of Fig. 5, [0046]); and using a characteristic value of a phase change induced to said reproduced data pattern by said additional pattern of change as said control setpoint ([0045] – [0046] and [0048]).

Regarding claim 3, Ashinuma teaches a method according to claim 1, wherein said characteristic value corresponds to the amplitude of said phase change (S104 and S105 of Fig. 5, [0045]).

Regarding claim 6, Ashinuma teaches a method according to claim 1, wherein said predetermined reading parameter corresponds to at least one of the following values: the value of said radiation power and the value of said external magnetic field (Fig. 5, [0042] reproduction power and magnetic field).

Regarding claim 8, Ashinuma teaches a method according to claim 1, wherein said reproduced data pattern is a predetermined data pattern provided in a calibration area of said recording medium ([0040] testing zone).

Regarding claim 10, Ashinuma teaches a method according to claim 1, wherein said at least one predetermined reading parameter is passively swept from a lower value to a higher value or vice versa during said variation step (Fig. 4, [0036] – [0039]), said lower value being lower than all possible values of said lower limit value (x1) and said higher value being higher than all possible values of said upper limit value (x2) (Fig. 4, [0037] P3 and P9 are the minimum and maximum).

Regarding claim 13, Ashinuma teaches a reading apparatus for reading from a magneto-optical recording medium (Fig. 1, [0022] – [0030]) comprising a storage layer and a readout layer ([0034] the first and third magnetic layers), wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying a mark region from said storage layer to said readout layer upon heating by a radiation power with the help of said external magnetic field ([0034]), said apparatus comprising: control means for controlling the size of a spatial copy window of said copying process by varying at least one predetermined reading parameter in response to a control information derived from said readout pulse (127 of Fig. 1, [0030]); change means for applying a predetermined additional pattern of change to said at least one predetermined parameter (129 of Fig. 1, [0029]) and calibration means for using a characteristic value of a phase change induced to a reproduced data pattern by said additional pattern of change as a reference setpoint for said control means (125 of Fig. 1, [0028]).

Regarding claim 14, Ashinuma teaches a reading apparatus according to claim 13, wherein said calibration means is adapted to monitor said data pattern reproduced

by said reading apparatus in order to determine a predetermined optimum value of said at least one predetermined parameter ([0031]), and to detect said characteristic value of said induced phase change when said optimum value of said reading parameter is applied ([0030]).

Regarding claim 15, Ashinuma teaches a reading apparatus according to claim 13, wherein said reading apparatus is arranged to read said characteristic value from said recording medium and to supply said characteristic value to said calibration means ([0030]).

Regarding claim 16, Ashinuma teaches a reading apparatus according to claim 15, wherein said reading apparatus is arranged to read said characteristic value from said recording medium based on at least one predetermined parameter of said recording medium ([0030]).

Regarding claim 18, Ashinuma teaches a reading apparatus according to claim 13, wherein said characteristic value corresponds to the amplitude of said phase change ([0040]).

Regarding claim 20, the limitations have been analyzed and rejected with respect to claims 1 and 13 as set forth above.

Regarding claim 21, the limitations have been analyzed and rejected with respect to claim 16 as set forth above.

Regarding claim 23, the limitations have been analyzed and rejected with respect to claim 18 as set forth above.

Regarding claim 24, Ashinuma teaches a recording medium according to claim 20, further comprising a calibration area with a predetermined data pattern for calibration of said reference setpoint ([0030] testing pattern predetermined or arbitrary pattern may be used).

Regarding claim 25, Ashinuma teaches a recording medium according to claim 20, further comprising a calibration area with an arbitrary user data pattern for calibration of said reference setpoint ([0030] testing pattern predetermined or arbitrary pattern may be used).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2, 4, 5, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashinuma US 2001/0028607 A1 and further in view of Ratchford et al. 4,646,241.

Regarding claim 2, Ashinuma fails to teach a method according to claim 1, wherein said at least one limit value comprises a lower limit value (x1) determined by



the occurrence of at least one missing peak in said reproduced data pattern and an upper limit value ( $x_2$ ) determined by the occurrence of at least one false peak in said reproduced data pattern.

However, Ratchford et al. teach the method of determining the value of the limits by the occurrence of a missing peak or a false peak (Fig. 6 and Col 10 Line 17 – Col 12 Line 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of the calibration method as taught by Ashinuma with the teachings of the method of determining threshold of sample as taught by Ratchford et al. to calculate a upper limit value by a false peak and a lower limit value by a missing peak for the benefit of accurately measuring the upper and lower limits of a sample.

Regarding claim 4, Ashinuma teaches a method according to claim 2, wherein said predetermined value is a value located between said lower and upper limit values (Fig. 4, [0036] – [0038] the optimum value of  $P_r$  is between  $P_5$  and  $P_9$ ).

Regarding claim 5, Ashinuma teaches a method according to claim 2, wherein said predetermined value is value roughly located in the middle between said lower and upper limit values (Fig. 4, [0036] – [0038] the optimum value of  $P_r$  is roughly in the middle between  $P_5$  and  $P_9$ ).

Regarding claim 11, Ashinuma fails to teach a method according to claim 1, wherein said at least one predetermined reading parameter is actively changed from an initial default value to a lower value or to a higher value during said variation step, the

direction of change being determined in response to the number of false peaks or missing peaks determined in said reproduced data pattern during said monitoring step.

However, Ratchford et al. teach the method of determining the value of the limits by the occurrence of a missing peak or a false peak (Fig. 6 and Col 10 Line 17 – Col 12 Line 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of the calibration method as taught by Ashinuma with the teachings of the method of determining threshold of sample as taught by Ratchford et al. to calculate a upper limit value by a false peak and a lower limit value by a missing peak for the benefit of accurately measuring the upper and lower limits of a sample.

Regarding claim 12, Ashinuma fails to teach a method according to claim 10, wherein said lower limit value ( $x_1$ ) is set to a value corresponding to said lower value if a number of missing peaks detected during said monitoring step has reached a first predetermined threshold value, and said upper limit value ( $x_2$ ) is set to a value corresponding to said upper value if a number of false peaks detected during said monitoring step has reached a second predetermined threshold value.

However, Ratchford et al. teach the method of determining the value of the limits by the occurrence of a missing peak or a false peak (Fig. 6 and Col 10 Line 17 – Col 12 Line 8). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of the calibration method as taught by Ashinuma with the teachings of the method of determining threshold of sample as taught by Ratchford et al.

to calculate a upper limit value by a false peak and a lower limit value by a missing peak for the benefit of accurately measuring the upper and lower limits of a sample.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ashinuma US 2001/0028607 A1 and further in view of Ishikawa 5,532,586.

Regarding claim 7, Ashinuma fails to teach a method according to claim 1, wherein said additional change pattern is a periodic modulation pattern having a predetermined frequency.

However, Ishikawa teaches the use of a test pattern with a predetermined frequency (Col 3, Lines 35-65). Therefore, one of ordinary skill in the art would have found it obvious to combine the teachings of the method as taught by Ashinuma with the teachings of the test pattern with a predetermined frequency as a whole to write test data with a predetermined frequency for the benefit of determining defects or errors on the disc.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ashinuma US 2001/0028607 A1 and further in view of Tanoue et al. US 6,351,448 B1.

Regarding claim 9, Ashinuma fails to teach a method according to claim 1, wherein said reproduced data pattern is an arbitrary user data pattern provided in a recording area of said recording medium (10), and wherein said determination step is based on a runlength violation detection. However, Tanoue et al. does.

Tanoue et al. teach the use of a runlength violation detection scheme to determine limitation of data (Col 2 Lines 55 - 67). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of the method of reproduction data as taught by Ashinuma with the teachings of the runlength violation detection as taught by Tanoue et al. as a whole, to limiting the runlengths to a predetermined range for the benefit of staying within the proper boundaries.

Claims 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashinuma US 2001/0028607 A1 and further in view of Tozaki et al. US 6,236,804 B1.

Regarding claim 17, Ahinuma fails to teach a reading apparatus according to claim 16, wherein said at least one predetermined parameter of said recording medium (10) comprises at least one of the following: a radial position and a reading velocity. However, Tozaki et al. does.

Tozaki et al. teach to include reading velocity in the predetermined parameters (Col 23 Lines 35-53). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of the method of reproduction data as taught by Ashinuma with the teachings of the reading velocity included in the predetermined parameters as taught by Tanoue et al. as a whole, include reading velocity as a predetermined parameter for the benefit of reading the optical disc at the optimal reading velocity.

Regarding claim 22, the limitations have been analyzed and rejected with respect to claim 17 as set forth above.

Claims 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashinuma US 2001/0028607 A1.

Regarding claim 19, Ashinuma teaches a reading apparatus according to claim 13, wherein said reading apparatus is a disc player for MAMMOS discs ([0034] it would have been obvious to one of ordinary skill in the art to replace the domain wall displacement detection method used in this embodiment with the MAMMOS method as they all belong to the domain expansion method).

Regarding claim 26, the limitations have been analyzed and rejected with respect to claim 19 as set forth above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kezhen Shen whose telephone number is (571) 270-1815. The examiner can normally be reached on Monday-Friday 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kezhen Shen/  
Examiner, Art Unit 2627

/Joseph H. Feild/  
Supervisory Patent Examiner, Art  
Unit 2627